CLAIM AMENDMENTS

Claim Amendment Summary

Claims pending

- Before this Amendment: Claims 1-35.

- After this Amendment: Claims 1-23, 25-28, and 30-35

Non-Elected, Canceled, or Withdrawn claims: 24 and 29

Amended claims: 1, 3-5, 7, 10, 12-14, 19-23, 25-28, and 30-34

New claims: None

This listing of claims will replace all prior versions, and listings, of claims in the Application.

Listing of Claims:

1.   **(Currently Amended)** A data mining method comprising:

accessing one or more of a plurality of data sets, each data set storing data organized as cases, each case comprising:

a key value, wherein the key value uniquely identifies the corresponding case;

a value in one or more of a plurality of variables, whereby the values represent characteristics of a subject of the case and each type of the plurality of variables corresponds to pre-determined data types;

retrieving data from a data set of the plurality of data sets;

performing operations on a chosen one or more of a plurality of mining structures, wherein the operations comprise:

create, wherein the create operation sets up mining structures by creating one or more mining structures using data retrieved from the data set, wherein each mining structure describes how the data will be modeled for data mining, and wherein the creating comprises:

defining one or more of a plurality of mining structure variables as the variables from the data structure that will be used in the mining structure; and

defining one or more of a plurality of acts of processing to be performed on the retrieved data, wherein the one or more acts of processing may be performed on a subset of the retrieved data;

process, wherein the process operation performs initial processing on the retrieved data from the data set for mining model creation by performing processing on the retrieved data, wherein processing occurs only on ~~the~~ a subset of data determined necessary per the definitions in the mining structure;

clear, wherein the clear operation removes data from a processed mining structure;

drop, wherein the drop operation deletes each chosen mining structure;

update, wherein the update operation causes the mining structure to be reprocessed from the data set;

query, wherein the query operation returns ~~the~~ requested values from the mining structure;

storing results of the operations performed on the data in the mining structure;

~~ascertaining the existence of one or more mining structures available for mining model creation; and~~

determining whether at least one mining structure is available for mining model creation;

~~based on the mining structures,~~ creating a plurality of mining models based on the at least one mining structure when the at least one mining structure is available, wherein each mining model is predictive of chosen characteristics based on the values obtained from mining structure variables, and the plurality of mining models includes a first mining model created from a first mining structure of the plurality of mining structures, and a second mining model, different from the first mining model, created from the first mining structure;

creating the plurality of mining models based on the one or more of the plurality of data sets when the at least one mining structure is not available; and

providing results of the creation of the one or more mining models.

2. (Previously Presented) The method of claim 1, wherein one or more of the plurality of mining structures serve as first class objects in a database.

3. (Currently Amended) The method of claim 1 wherein one mining structure created from a <u>respective</u> data set is not equal to another mining structure created from the same <u>respective</u> data set.

4. (Currently Amended) The method of claim 3, wherein the cases represented by the mining structure variables stored in <u>the</u> one mining structure created from [[a]] <u>the respective</u> data set are not the same as the cases represented by the mining structure variables stored in <u>the</u> another mining structure created from the same <u>respective</u> data set.

5. (Currently Amended) The method of claim 3, wherein the values stored in ~~one mining structure's~~ <u>the</u> mining structure variables <u>of the one mining structure</u> created from [[a]] the <u>respective</u> data set are not equal to the values stored in <u>the</u> ~~another mining structure's~~ mining structure variables <u>of the another mining structure</u> created from the same <u>respective</u> data set.

6. (Previously Presented) The method of claim 3, wherein links between the one or more of a plurality of mining models and the mining structure from which each mining model was created are stored, facilitating changes in one or more mining structures being simultaneously reflected in each

of the one or more mining models created from each of the changed mining structures.

7. (Currently Amended) [[A]] <u>The</u> method as recited in claim 3, further comprising:

evaluating two or more mining structures created using data from the same data set by comparing to each other, at least one mining model created from each of the two or more mining structures;

providing the results of the comparison.

8. (Previously Presented) The method as recited in claim 1, further comprising providing two or more mining models created from the same mining structure for comparison.

9. (Previously Presented) The method as recited in claim 1, further comprising:

accepting a drill through query for specified data; and

providing said specified data.

10. (Currently Amended) A computer storage medium having embodied thereon computer executable instructions which, when executed by a processor, perform a method comprising:

accessing one or more of a plurality of data sets, each data set storing data organized as cases, each case comprising:

a key value;

a value in one or more of a plurality of variables, whereby the values represent characteristics of a subject of the case and each type of the plurality of variables corresponds to pre-determined data types;

retrieving data from a data set of the plurality of data sets;

performing operations on a chosen one or more of a plurality of mining structures, wherein the operations comprise:

create, wherein the create operation sets up mining structures by creating one or more mining structures using data retrieved from the data set, wherein each mining structure describes how the data will be modeled for data mining, and wherein the creating comprises:

defining one or more of a plurality of mining structure variables as the variables from the data structure that will be used in the mining structure; and

defining one or more of a plurality of acts of processing to be performed on the retrieved data, wherein the one or more acts of processing may be performed on a subset of the retrieved data;

process, wherein the process operation performs initial processing on the retrieved data from the data set for mining model creation by performing processing on the retrieved data, wherein processing occurs only on ~~the~~ a subset of data determined necessary per the definitions in the mining structure;

clear, wherein the clear operation removes data from a processed mining structure;

drop, wherein the drop operation deletes each chosen mining structure;

update, wherein the update operation causes the mining structure to be reprocessed from the data set;

query, wherein the query operation returns ~~the~~ requested values from the mining structure;

storing results of the operations performed on the data in the mining structure;

~~ascertaining the existence of one or more mining structures available for mining model creation; and~~

determining whether at least one mining structure is available for mining model creation;

~~based on the mining structures,~~ creating a plurality of mining models based on the at least one mining structure when the at least one mining structure is available, wherein each mining model is predictive of chosen characteristics based on the values obtained from mining structure variables, and the plurality of mining models includes a first mining model created from a first mining structure of the plurality of mining structures, and a second mining model, different from the first mining model, created from the first mining structure;

creating the plurality of mining models based on the one or more of the plurality of data sets when the at least one mining structure is not available; and

providing results of the creation of the one or more mining models.

11. (Previously Presented) The computer storage medium as recited in claim 10 wherein one or more of the plurality of mining structures serve as first class objects in a database.

12. (Currently Amended) The computer storage medium as recited in claim 10 wherein one mining structure created from a respective data set is not equal to another mining structure created from the same respective data set.

13. (Currently Amended) [[A]] The computer storage medium as recited in claim 12 wherein the cases represented by the mining structure variables stored in the one mining structure created from [[a]] the respective data set are not the same as the cases represented by the mining structure variables stored in the another mining structure created from the same respective data set.

14. (Currently Amended) The computer storage medium as recited in claim 12 wherein the values stored in one mining structure's the mining structure variables of the one mining structure created from [[a]] the respective data set are not equal to the values stored in another mining structure's the mining structure variables of the another mining structure created from the same respective data set.

15. (Previously Presented) The computer storage medium as recited in claim 10 wherein links between the one or more of a plurality of mining models and the mining structure from which each mining model was created are stored, facilitating changes in one or more mining structures being simultaneously reflected in each of the one or more mining models created from each of the changed mining structures.

16. (Previously Presented) The computer storage medium as recited in claim 12, wherein the method further comprises:

evaluating two or more mining structures created using data from the same data set by comparing to each other, at least one mining model created from each of the two or more mining structures;

providing the results of the comparison.

17. (Previously Presented) The computer storage medium as recited in claim 10, wherein the method further comprises providing two or more mining models created from the same mining structure for comparison.

18. (Previously Presented) The computer storage medium as recited in claim 10, wherein the method further comprises:

accepting a drill through query for specified data; and

providing said specified data.

19. (Currently Amended) A data mining method comprising:

accessing one or more of a plurality of data sets, each data set storing data organized as cases, each case comprising:

a key value;

a value in one or more of a plurality of variables, whereby the values represent characteristics of a subject of the case and each of the variable types correspond to specific data types;

retrieving data from a data set;

performing operations on a chosen one or more of a plurality of mining structures, wherein the operations comprise:

create, wherein the create operation sets up mining structures by creating one or more mining structures using data retrieved from the data set, wherein each mining structure describes how the data will be modeled for data mining, and wherein the creating comprises:

defining one or more of a plurality of mining structure variables as the variables from the data structure that will be used in the mining structure; and

defining one or more of a plurality of acts of processing to be performed on the retrieved data, wherein the one or more acts of processing may be performed on a subset of the retrieved data;

process, wherein the process operation performs initial processing on data set data for mining model creation by performing processing on the retrieved data, wherein processing occurs only on ~~the~~ a subset of data determined necessary per the definitions in the mining structure;

clear, wherein the clear operation removes data from a processed mining structure;

drop, wherein the drop operation deletes each chosen mining structure;

update, wherein the update operation causes the mining structure to be reprocessed from the data set;

query, wherein the query operation returns ~~the~~ requested values from the mining structure;

storing results of the operations performed on the data in the mining structure;

ascertaining the existence of one or more mining structures available for mining model creation;

creating one or more of a plurality of mining models, wherein each mining model is predictive of chosen characteristics based on the values obtained from mining structure variables, ~~and~~ wherein when there is more than one mining model, one mining model created from a mining structure is not equal to another mining model created from the same mining structure, wherein when a mining model creation function detects that no mining structure utilizing data from a desired data set is currently available, creating one or more mining models includes creating said mining structure, and wherein links between the one or more of a plurality of mining models and the mining structure from which each

mining model was created are stored, facilitating changes in one or more mining structures being simultaneously reflected in each of the one or more mining models created from each of the changed mining structures;

providing results of the creation of the one or more mining models.

20. (Currently Amended) [[A]] The method as recited in claim 19 wherein one or more of the plurality of mining structures serve as first class objects in a database.

21. (Currently Amended) The method as recited in claim 19 wherein one mining structure created from a respective data set is not equal to another mining structure created from the same respective data set.

22. (Currently Amended) The method as recited in claim 21 wherein the mining structure variables stored in the one mining structure created from [[a]] the respective data set are not the same as the mining structure variables stored in the another mining structure created from the same respective data set.

23. (Currently Amended) The method as recited in claim 21 wherein the values stored in one mining structure's the mining structure variables of the

one mining structure created from [[a]] the respective data set are not equal to the values stored in ~~mining structure's~~ the mining structure variables of the another mining structure created from the same respective data set.

24. (Canceled)

25. (Currently Amended) A computer storage medium having embodied thereon computer executable instructions which, when executed by a processor, perform a method comprising:

accessing one or more of a plurality of data sets, each data set storing data organized as cases, each case comprising:

a key value;

a value in one or more of a plurality of variables, whereby the values represent characteristics of a subject of the case and each of the variable types correspond to specific data types;

retrieving data from a data set;

performing operations on a chosen one or more of a plurality of mining structures, wherein the operations comprise:

create, wherein the create operation sets up mining structures by creating one or more mining structures using data retrieved from the data

set, wherein each mining structure describes how the data will be modeled

for data mining, and wherein the creating comprises:

defining one or more of a plurality of mining structure

variables as the variables from the data structure that will be used in

the mining structure; and

defining one or more of a plurality of acts of processing to be

performed on the retrieved data, wherein the one or more acts of

processing may be performed on a subset of the retrieved data;

process, wherein the process operation performs initial processing

on data set data for mining model creation by performing processing on

the retrieved data, wherein processing occurs only on ~~the~~ a subset of data

determined necessary per the definitions in the mining structure;

clear, wherein the clear operation removes data from a processed

mining structure;

drop, wherein the drop operation deletes each chosen mining

structure;

update, wherein the update operation causes the mining structure

to be reprocessed from the data set;

query, wherein the query operation returns ~~the~~ requested values

from the mining structure;

storing results of the operations performed on the data in the mining structure;

ascertaining the existence of one or more mining structures available for mining model creation;

creating one or more of a plurality of mining models, wherein each mining model is predictive of chosen characteristics based on the values obtained from mining structure variables, and wherein when there is more than one mining model, one mining model created from a mining structure is not equal to another mining model created from the same mining structure, wherein when a mining model creation function detects that no mining structure utilizing data from the desired data set is currently available, creating one or more mining models includes creating said mining structure, and wherein links between the one or more of a plurality of mining models and the mining structure from which each mining model was created are stored, facilitating changes relating to discretization of continuous variables associated with the one or more mining structures being simultaneously reflected in each of the one or more mining models created from each of the changed mining structures;

providing results of the creation of the one or more mining models.

26. (Currently Amended) The computer storage medium A method as recited in claim 25 wherein one mining structure created from a respective data

set is not equal to another mining structure created from the same <u>respective</u> data set.

27. (Currently Amended) <u>The computer storage medium</u> ~~The method~~ of claim 26, wherein the mining structure variables stored in <u>the</u> one mining structure created from [[a]] <u>the respective</u> data set are not the same as the mining structure variables stored in <u>the</u> another mining structure created from the same <u>respective</u> data set.

28. (Currently Amended) <u>The computer storage medium</u> ~~The method~~ of claim 26, wherein the values stored in ~~one mining structure's~~ mining structure variables <u>of the one mining structure</u> created from [[a]] <u>the respective</u> data set are not equal to the values stored in ~~another mining structure's~~ mining structure variables <u>of the another mining structure</u> created from the same <u>respective</u> data set.

29. (Canceled)

30. (Currently Amended) A data mining system comprising:

a processing unit;

a system memory coupled to the processing unit;

one or more of a plurality of data sets <u>stored in the system memory</u>, each data set storing data organized as cases, each case comprising:

a key value;

a value in one or more of a plurality of variables, whereby the values represent characteristics of a subject of the case and each of the variable types correspond to specific data types;

one or more of a plurality of mining structures <u>stored in the system memory, the one or more of the plurality of mining structures</u> created with data from a data set and available for mining model creation, each mining structure comprising:

a structure wherein information from the data set is processed, wherein processing occurs only on ~~the~~ data necessary per ~~the~~ definitions in the mining structure and includes discretizing per said definitions<u>, wherein said definitions indicate that a first number of the one or more of the plurality of mining structures include continuous variables of a particular data set discretized in a first manner and that a second number of the one or more of the plurality of mining structures include the</u>

continuous variables of the particular data set discretized in a second

manner;

a container wherein processed information from the data set is

stored at least temporarily in the system memory;

one or more of a plurality of mining models each mining model being

created from a mining structure wherein one mining ~~models~~ model created from

a mining structure is not equal to another ~~of the~~ mining ~~models~~ model created

from the same mining structure and whereby results of the data mining are

provided.

31. (Currently Amended) [[A]] The system as recited in claim 30

wherein one or more of the plurality of mining structures serve as first class

objects in a database.

32. (Currently Amended) The system as recited in claim 30 wherein

one mining structure created from a respective data set is not equal to another

mining structure created from the same respective data set.

33. (Currently Amended) The system as recited in claim 32 wherein the

mining structure variables stored in the one mining structure created from [[a]]

the respective data set are not the same as the mining structure variables stored in the another mining structure created from the same respective data set.

34. (Currently Amended) The system as recited in claim 32 wherein the values stored in ~~one mining structure's~~ mining structure variables of the one mining structure created from [[a]] the respective data set are not equal to the values stored in ~~another mining structure's~~ mining structure variables of the another mining structure created from the same respective data set.

35. (Previously Presented) The system as recited in claim 30 wherein links between the one or more of a plurality of mining models and the mining structure from which each mining model was created are stored facilitating changes in one or more mining structures being simultaneously reflected in each of the one or more mining models created from each of the changed mining structures.